Army Delivers Route Clearance Vehicle Capabilities

By Lieutenant Colonel Charles P. Dease

While clearing routes in the war zone, Soldiers keep their eyes and ears open for any visible threats. The environment is difficult and inhospitable. The driver accelerates the vehicle, then. . . an explosion! A powerful blast wave ripples through the vehicle, creating deafening noise and smoke. Any contents of the vehicle not secured become airborne; the occupants are stunned and disoriented. Finally, stillness and awareness return. Moments later, Soldiers rise from the remnants of their vehicle. Each passenger is accounted for and checked for injuries. More often than not, the injuries are not severe, and the trailing convoy can move forward. It is another victory against the enemy.

The scene described above is not always the result when a route clearance vehicle (RCV) encounters an improvised explosive device (IED). However, such fortuitous outcomes are becoming more common, due to the evolution of RCVs that can detect, identify, neutralize, or defeat explosive hazards, enabling warfighting commanders to operate with minimal interruption. The Army's Product Manager, Assured Mobility Systems (PM AMS) leads the development, procurement, fielding, sustainment, and upgrade of the Army's young fleet of RCVs.

Development and Fielding

In 2005, the Program Executive Office for Combat Support and Combat Service Support (PEO CS&CSS), which is located at the U.S. Army TACOM Life Cycle Management Command (TACOM LCMC) in Warren, Michigan, created PM AMS with a charter to manage the product life cycle of the swiftly emerging route clearance fleet of vehicles. PM AMS reports to the Army's Project Manager (PM), Mine-Resistant Ambush-Protected (MRAP) Vehicles, falling under the leadership of the PEO CS&CSS.

PM AMS approached its mission with a sense of urgency—route clearance capabilities were needed in-theater to save Warfighters' lives. Today, the development and fielding of route clearance capabilities continue to remain important. According to the Defense Manpower Data Center, IEDs are responsible for nearly two-thirds of all casualties caused by hostile action in Afghanistan and Iraq.

The objective of PM AMS is to provide effective, reliable, and affordable vehicle platforms capable of detecting,

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identifying, neutralizing, and defeating suspected explosive hazards. Most MRAP vehicles are general transportation assets designed to protect their occupants while trying to avoid hazards. PM AMS works on the engineering development, procurement, fielding, and sustainment of RCVs specifically designed to seek out explosive hazards. Some may look at a destroyed vehicle and think the enemy is winning. However, when an RCV encounters an IED and Soldiers walk away, that vehicle—regardless of its state—has accomplished its mission. The former deputy PM AMS corroborates Soldiers' confidence in what the Army is fielding and their expressed pride in clearing a route for others, then walking away from the destroyed vehicle.

Growing Route Clearance Capabilities

In its infancy, PM AMS supported only a few vehicles that were procured to fill operational needs statements (ONS). As war requirements increased, PM AMS grew as well, currently managing 17 configurations of 5 different vehicle systems totaling approximately 1,500 RCVs.

The current fleet includes the Husky Vehicle-Mounted Mine-Detection (VMMD) System, the Buffalo® Mine-Protected Clearance Vehicle (MPCV), the Panther Medium Mine-Protected Vehicle (MMPV), the Joint Explosive Ordnance Disposal (EOD) Rapid Response Vehicle, and the RG-31 Mine-Protected Vehicle (Route Clearance Variant). A core PM AMS team—composed of a systems acquisition manager, a systems engineer, and a logistician—is responsible for managing each vehicle system's life cycle.

Additionally, PM AMS employs multiple support teams to perform critical functions to ensure the organization's success. Charged with developing solutions to Army G-3 validated requirements and capability requests from theater, the PM AMS engineer integrated product team (IPT) has developed and/or integrated many crew survivability upgrades, including improved seats and seat belts; fire suppression systems; gunner platforms; gunner restraint systems; Objective Gunner Protection Kits (OGPKs); mine/IED rollers; rocket-propelled grenade and explosively formed penetrator protection kits; transparent armor (glass); and remote weapon stations. The IPT also integrated command, control, communications, computer, intelligence, surveillance, and reconnaissance (C4ISR) upgrades—such as situational awareness cameras, light kits, driver's vision enhancement, and Blue Force Tracker systems. These enhancements have increased capabilities and effectiveness of the RCVs.

The business management team ensures that appropriate funding is available and conducts financial and other analyses to guarantee proper utilization of resources. The

Photo by Sergeant Teddy Wade

U.S. Army Soldiers wrap a towing rope around the front end of an RG-31 MRAP vehicle during a mission in Afghanistan.

This U.S. Army Panther MMPV is equipped with a mine/IED roller to help neutralize or defeat explosive hazards.

fielding and sustainment team focuses on getting vehicles into theater and sustaining them once there. The RCV fleet and its subsystems are new pieces of equipment fielded to theater to support ONS requirements. The Army's logistics and sustainment infrastructure does not yet support the new equipment; therefore, to sustain the RCV fleet in-theater, PM AMS covers the support gap with a refined contractor logistics support (CLS) concept. According to the PM AMS logistics lead, the CLS concept provides logistics, training, maintenance, and repair operations at a number of battlefield repair locations in Iraq and Afghanistan. New equipment training teams conduct vehicle handoff to units and train Soldiers to operate and maintain RCVs and their subsystems.

A small quality assurance team ensures that PM AMS-developed vehicles are appropriate for Soldier use and meet all quality vehicle standards. Additionally, there are three other acquisition managers in charge of modernization, drawdown efforts in Iraq, and harvesting. The harvesting program will take a select number of RCVs and RG-33+ MRAP vehicles procured as ONS vehicles, upgrade them to RCV specifications, and return them to the RCV fleet. The Deputy Product Manager, PM AMS, described this very dedicated group that is constantly working to improve their responsiveness to the Warfighter. Due to urgency and the constantly evolving threats, PM AMS realizes that developing an 80 percent solution immediately is better than developing a 100 percent solution three months from now.

POR Vehicle Development

PM AMS already has begun to procure and test the three program of record (POR) RCVs—the Husky, the Buffalo, and the Panther. POR-configured Huskys, Buffalos, and Panthers have already been fielded in-theater—albeit under urgent materiel release criteria—in support of current operations.

The Husky is extremely accurate in identifying a buried threat. It drives in front of convoys to detect suspected explosive hazards, marking them for identification. The Buffalo is a specialized mine-clearing/anti-IED vehicle equipped with a distinctive hydraulic arm that interrogates suspected explosive hazards and clears them when necessary. The Panther is a command and control vehicle designed to neutralize or defeat explosive hazards and is equipped with PackBot or TALON® robots. The robots provide route clearance or EOD units with standoff protection, since Soldiers can deploy and operate the robots from the Panther's armored workstation.

PM AMS personnel are simultaneously completing other full materiel release requirements in preparation for fielding the POR RCV fleet of vehicles to units. The goal is to begin fielding POR RCVs in 2011.

Providing Confidence

Soldiers are highly confident of this lifesaving equipment. The PM AMS team, RCVs, and their integrated subsystems help defeat explosive hazards, clear routes, and save Warfighters' lives. With the confidence RCVs provide, Soldiers on route clearance patrol become the hunters. Everyone following in convoys has safe passage, because the RCVs are neutralizing the threats.

Lieutenant Colonel Dease is the former product manager for PM AMS. He holds a bachelor's in business administration from Claflin College and a master's in acquisition and contract management from the Florida Institute of Technology. He is a graduate of the Command and General Staff College and the Program Manager Course. A member of the Army Acquisition Corps, he has earned level III certification in program management from the Defense Acquisition University.